

LUKASHEVICH, I. P.

Practical studies in petroleum technology. Izd. 2., ispr. i dop. Moskva, Gos. nauchno-  
tekhn. izd-vo neftianoi i gornotoplivnoi lit-ry, 1952. 234 p. (53-24756)

TP690.L85 1952

AL'TSHULER, Anatoliy Yevgen'yevich; KOROTKOV, Petr Ivanovich; KAZANSKIY, Vasilii Leonidovich; GERASIMENKO, Nikolay Mikhaylovich; BONDARENKO, B.I., kand.tekhn.nauk, red.; LUKASHKOVICH, I.P., kand.tekhn.nauk, red.; YEFREMOVA, T.D., vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Production of lubricants from high-sulfur petroleum crudes]  
Proizvodstvo smazochnykh masel iz sernistykh neftei. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1959.  
189 p. (MIRA 12:10)  
(Lubrication and lubricants) (Petroleum--Refining)

ЛУКАСНЕВИЧ, И. П.

11(2,4) PHASE I BOOK EXPLOITATION  
Moscow. Institut matematicheskoy i gosovoy promyshlennosti.  
Problemy nefti i gasa (Oil and Gas Problems) Moscow, Gosoptekhnizdat, 1959.  
362 p. (Series: Likh. Trudy, vop 24) Errata slip inserted. 2,000 copies  
printed.  
Sponsoring Agency: Ministerstvo vyzhage obrasovaniya SSSR.

Exec. Ed.: G. F. Margunov; Tech. Ed.: I. G. Fedotova; Editorial Board:  
K. P. Zhigach, Professor (Resp. Ed.), I. M. Nenashev, Professor, A.  
G. Petrov, Candidate of Economic Sciences, V. K. Vinogradov, Candidate  
of Technical Sciences, M. M. Churygin, Professor, F. F. Dvayev, Professor,  
Y. A. Gurnay, Professor, V. E. Babbar, Professor, G. N. Panchabov,  
Professor.

**PURPOSE:** This collection of articles is intended for specialists in the  
petroleum and gas industry. It will also be of interest to scientific  
research institutes, teachers, and students of vases.  
**CONTENT:** This collection of articles reviews problems connected with natural  
and synthetic gas production. A number of articles are devoted to the  
study of regional oil- and gas-bearing zones, the crystalline beds underlying  
the Volga-Balta para-liferous regions, the geotectonics of the Caspian depression,  
seismic prospecting, oil well logging, detection of oil and gas fields,  
petroleum-bearing formations and their physicochemical characteristics, and  
petroleum engineering. Other articles deal with gas turbine engines and  
their possible use in the oil and gas industry, the production of carboxy-  
catalytic compounds, the application of ionic exchange tars to the  
catalysis of continuous coking of heavy petroleum residues, the  
improvement of lube oil production, and the influence of  
acid esters on the properties of lubricating oil and grease. The book contains  
a number of photographs, tables, flow charts, and diagrams, among which  
those relating to catalytic purification and conversion of heavy petroleum resi-  
dues over a fluidized bed catalyst deserve special attention. References  
accompany individual articles.

Richentay, R. M. Gas Turbine Engines and Prospects of Utilizing Tars  
in Petroleum and Gas Industry 246

Zhigach, K. F., M. Z. Pikel'shchikova, I. M. Timshin, and Ye. M.  
Mogilyak. Study of Physicochemical Properties of Fractions and  
Low Polymerisation Compounds of Carbonylsulfonates, and Their  
Production 247

Rozhlyev, A. V., Ye. M. Panchkin, I. F. Bayer, M. V. Kurashov, and  
K. I. Shubaylov. Present State of the Synthesis of Benzene  
Homologs and Their Chemical Processing 249

Isakulyants, V. Y. Ionic Exchange Tars and Their Application to  
Organic Catalysis 246

Gurylov, V. L. (Deceased), A. I. Shoblo, Ye. V. Seldovich, N. P.  
Kryzheva, N. S. Lerner, V. N. Panchkin, A. S. Chernov, and  
A. I. Shcherbakov. The Process of Continuous Coking of Heavy  
Petroleum Residues Carried Out Over a Fluidized Bed 298

Chernoshulov, M. I., I. P. Lukashovich, A. I. Sitenko, O. G. Shukalina,  
L. P. Marakova, M. F. Sudzhikova, A. I. Shcherbakov, L. M. Merlova,  
I. Y. Milya, N. A. Kuznetsov, and G. G. Gerasimov. Solubility of Hydro-  
carbon Oils in Organic Solvents and Feasibilities of Improving Lube  
Oil Manufacturing 311

Mal'tsevskiy, D. S. Synthetic Acid Esters and Their Influence on  
Properties of Lube Oil and Grease 311 32

CHERNOZHUKOV, N.I.; LUKASHEVICH, I.P.; BIKKULOV, A.Z.; SUSANINA, O.G.;  
KAZAKOVA, L.P.; SADCHIKOVA, M.F.; SHCHEGROVA, K.A.; MARKOVA, L.M.;  
KIRIYA, V.V.; KUZ'MINA, N.A.; GLAZOV, G.

Solubility of oil hydrocarbons in organic solvents and means of  
improving oil production. Trudy MINKHIGP no.24:311-340 '59.  
(MIRA 13:3)

(Petroleum--Refining) (Hydrocarbons)

LUKASHEVICH, I. P.

31978

S/081/61/000/023/053/061  
B106/B101

11.2230

AUTHORS: Betts, G. E., Gubenko, I. B., Karmin, B. K., Lukashevich, I. P.,  
Markova, L. M., Segalevich, A. Ye., Troitskaya, N. I.,  
Chernozhukov, N. I., Guseva, V. I.

TITLE: Test of petroleum products as plasticizer fillers for rubber  
compounds from divinyl styrene rubber. Communication I

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1961, 560, abstract  
23P346. (Tr. N.-i. in-ta shin. prom-sti, sb. 5, 1960, 5-20)

TEXT: For the purpose of examining the possibility of enlarging the raw  
material basis for the production of olefin rubber, a study has been made  
of the effect of paraffin-naphthene hydrocarbons (I) and aromatics (II),  
isolated from different kinds of petroleum at different stages of  
processing, on the physicomechanical properties of standard rubbers from  
[Kc-30A (SKS-30A). Addition of I and II in an amount of 35% to a mixture  
of rubber and softener deteriorates the physicomechanical properties of  
vulcanizates and enhances their elasticity. The tensile strength of rubber  
containing I drops from 274 (standard rubber) to 173 - 226 kgf/cm<sup>2</sup> while

Card 1/2

Test of petroleum products...

31978  
S/081/61/000/023/053/061  
B106/B101

its tear resistance drops from 81 to 47 - 54 kgf/cm. The tensile strength of rubber containing II drops to 200 - 245 kgf/cm<sup>2</sup> and its tear resistance to 52 - 64 kgf/cm. The thermal stability and the bonding strength of doubled rubbers decrease substantially after vulcanization. High-molecular products of comparatively higher viscosity deteriorate the strength properties of rubber less than do low-molecular ones. A test of 29 products, obtained from differently processed petroleum asphalts, deasphalted products, distillates, and raffinates, have shown that the most interesting of these products are a deasphalted petroleum asphalt, the residual high-viscosity oil, a secondary raffinate, and an aviation tar. These products ensure satisfactory physicomechanical properties, elasticity, and brittleness temperature (-50 C) of vulcanizates. [Abstracter's note: Complete translation. ] ✓

Card 2/2

L 8766-65 ENT(m)/EPF(c)/ENP(j) P-4/Pr-4 RM 57  
ACCESSION NR: AT4008699 8/2982/63/006/044/0048/0047

AUTHOR: Guseva, V.I., Lukashevich, I.P., Susanina, O.G., Markova, L.M., Troitskaya, N.I. 6

TITLE: Petroleum refining products as softeners-fillers for butadiene-styrene rubbers 6

SOURCE: Moscow. Institut neftekhimicheskoy i gazovoy promy'shlennosti. Trudy\*, no. 44, 1963. Neftekhimiya, pererabotka nefti i gaza, 48-57

TOPIC TAGS: petroleum product, plasticizer, filler, butadiene styrene, rubber, butadiene styrene rubber filler, butadiene styrene rubber plasticizer, oil refining, oil refining product, low temperature resistant rubber, oil filled rubber, rubber softener, softener, rubber plasticizer

ABSTRACT: The use of a wide variety of petroleum products as softeners and fillers for rubbers was investigated. The physical-chemical properties of the petroleum fractions and the compounds separated from them were analyzed. It was found that aromatic hydrocarbons combine with rubber better than the paraffin-naphthenic type. A change from light to heavy aromatic hydrocarbons causes an increase in the internal friction coefficient and the tensile and rupture strength of the rubber, along with a

Card 1/3

L 8766-65  
ACCESSION NR: AT4008699

decrease in elasticity and frost resistance. Light aromatic hydrocarbons with a ring number of 1.7-2.0 and an aniline point no higher than 70C, as well as medium hydrocarbons with a ring number of 2.5-3.0 and an aniline point no higher than 60C, combine well with and guarantee high vulcanized rubbers. Paraffin-naphthenic hydrocarbons with a ring number of 2.5-3.5 and an aniline point no higher than 125C also give suitable results. Rubbers containing avtol 18 were compared with those containing other petroleum products. It was noted that rubbers with refined and deparaffined oils having a lower aromatic hydrocarbon content possess a lower brittleness temperature, higher elasticity and significantly lower stability than rubbers with avtol 18. However, they are deficient in the sense that they exude oil. The physical-mechanical properties of rubbers containing deasphalted tar oil are comparable to those containing avtol 18. Adding raffinate P to rubbers causes a high stability with large doses and high elasticity at increased temperatures. The use of softeners and fillers is necessary in order to obtain sufficiently high physical-mechanical properties and a high elasticity for rubbers. An example of a softener-filler is a secondary raffinate obtained by selective refining and removal of paraffin-naphthenate and naphthene-aromatic hydrocarbons. Several methods are proposed for obtaining products of this type; separation by cooling an

Card 2/3

L 8766-55

ACCESSION NR: AT4008699

extracted phenol solution gives the best results. Orig. art. has: 5 tables.

ASSOCIATION: Institut neftekhimicheskoy i gazovoy promy\*shlennosti, Moscow. (Institute of the Petroleum Chemistry and Gas Industry)

SUBMITTED: 00

ENCL: 00

SUB CODE: MT, OC

NO REF SOV: 000

OTHER: 003

Card 3/3

LUKASHEVICH, I. P.

S/144/63/000/001/004/004  
D440/D307

AUTHOR: None given

TITLE: Conference on neurocybernetics

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Elektromekhanika, no. 1, 1963, 136

TEXT: The first vsesoyuznaya konferentsiya po neyrokibernetike (All-Union Conference on Neurocybernetics) was held from November 26-28, 1962 at the Rostovskiy gosudarstvennyy universitet (Rostov State University). In the course of 4 sessions, 27 lectures were delivered. I.P. Lukashevich discussed the programmed modeling on a digital computer of processes designed to stimulate the heart tissue. Ivanov, Muromskiy, Kiy and Antomonov of the Institut kibernetiki g. Kiev (Kiev Institute of Cybernetics) endeavored to establish in a series of lectures the fundamental principles underlying the processing of information mechanisms in biological systems. Professor A.V. Napalkov and N.A. Chivarina of MGU outlined the methods of creating conditioned reflexes, Sochivko and Zhezhel' from Leningrad discussed the feasibility of applying machines to identification of shapes.

Card 1/2

Conference on neurocybernetics

S/144/63/000/001/004/004  
D440/D307

Other lectures included: Professor A.B. Kogan, "Some principal features of arrangement and characteristics of the information - gathering apparatus of the brain". L.P. Krayzmer on "Man's memory mechanisms and the possibilities of reproducing memory artificially in cybernetic systems". It was decided to hold the next conference in Kiev in 1964. A.V. Napalkov, Professor at MGU was elected chairman, and A.B. Kogan, Professor at RGU Vice-Chairman of the Information Council set up to coordinate the work of the various research groups concerned with neurocybernetics.

Card 2/2

GUSEVA, V.I.; LIKASHEVICH, I.P.; SUSANINA, O.G.; MARKOVA, L.M.;  
TROITSKAYA, N.I.

Petroleum refining products as softener-fillers of divinyl  
styrene rubbers. Trudy MINKHIGP no.44:48-57 '63.

(MIRA 18:5)

LUKASHEVICH, I.P.

Electronic computers in the study of continuous models of control systems. Biofizika 8 no.6:715-721 '63. (MIRA 17:7)

1. Matematicheskiy institut imeni V.A. Steklova AN SSSR, Leningradskoye otdeleniye.

L 51821-65

ACCESSION NR: AP5017119

UR/0217/64/009/006/0731/0738

AUTHOR: Lukashevich, I. P.

33  
B

TITLE: Rhythm of homogeneous tissue and modelling of the behavior of the cardiac muscle

SOURCE: Biofizika, v. 9, no. 6, 1964, 731-738

TOPIC TAGS: histology, cardiology, cardiovascular system, computer, biophysics

ABSTRACT: A model of tissue capable of being stimulated and the simple characteristics of the myocardium were investigated by means of a computer in earlier work by the author (Biofizika, Vol 8, p 715, 1963). In this instance, development of fibrillation in the myocardium was modelled. Three hypotheses in regard to the mechanism of fibrillation have been advanced: 1) development of fibrillation as a result of the appearance of many foci with spontaneous activity; 2) development of fibrillation under the effect of a continuous afferent impulse of external origin; 3) development of fibrillation because of the formation of a closed circle along which the impulse moves. The first hypothesis is untenable, because the system must either be controlled by the focus with the most rapid

Card 1/3

L 51821-65

ACCESSION NR: AP5017119

activity, or breakdown into a number of independently active regions, isolation of which from each other will result in a return to the initial state (i. e., discontinuance of fibrillation), while actually fibrillation can only be stopped by making all centers refractory at the same time. The fallacy of the second hypothesis was demonstrated by the author in his earlier work. On the basis of the third hypothesis, a model was developed by assuming that cells temporarily out of action in a diseased or old heart are revived in a refractory zone immediately after passage of a wave; as a result, motion of an impulse along a circle (development of a spiral) results and fibrillation arises. The correctness of this model was checked on a computer. The existence of only one controlling center was assumed. Construction of a model with two controlling centers (sinus and atrioventricular center) is proposed.

"The author thanks I. M. Gel'fand, M. L. Tsotlin, and V. I. Varshavskiy, whose constant help and attention contributed greatly to the completion of this work." Orig. art. has: 8 figures, 16 formulas.

Card

2/3

L 51821-65

ACCESSION NR: AP5017119

ASSOCIATION: Vychislitel'nyy tsentr Leningradakogo otdeleniya Matematicheskogo instituta imeni V. A. Steklova (Computer Center, Leningrad Department, Mathematics Institute)

SUBMITTED: 19 Jan 64

ENCL: 00

SUB CODE: LS, DF

NR REF SOV: 003

OTHER: 000

JPRS

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Card 3/3

L 3904-66 EWT(m)/EPF(c)/EWP(j)/T DJ/RM

ACCESSION NR: AP5023506

UR/0318/65/000/008/0027/0030

665.521.4.061.54:678.049

40  
42  
B

AUTHOR: <sup>44</sup>Alekperov, K. A.; <sup>44</sup>Kusov, A. B.; <sup>44</sup>Lukashevich, I. P.; <sup>44</sup>Sochevko, T. I.

TITLE: Resin mixture plasticizer made of extracts from selective purification of petroleum lubricating oils

SOURCE: Nefteprerabotka i neftekhimiya, no. 8, 1965, 27-30

TOPIC TAGS: plasticizer, butadiene styrene rubber, synthetic rubber

ABSTRACT: Applicability of 340-400°, 400-450°, and 450-500°C fractions, of the prepurified distillate extract, their mixtures, and their blends with vacuum distillation residue (above 500°C) as plasticizer for resin mixtures based on non-plasticized SKS-30 butadiene-styrene rubber was studied. The individual fractions and the residue were obtained by vacuum distillation of phenol- and furfural extracts from distillate. The distillate extract was a product of the NPZ plant at Omsk. The object of this study was to develop a substitute for the PN-6 residual extract (vacuum distillation residue--above 500°C), and to assure a compliance of the substitute with the VTU 71-61 technical standard for the PN-6 extract. The base non-plasticized resin was prepared by rolling the following mixture (in weight

Card 1/3

L 3904-66

ACCESSION NR: AP5023506

units): SKS-30 rubber--100, stearic acid--2.0, zinc oxide--5.0, channel gas black--50, Altax--0.6, diphenylguanidine--0.75, and sulfur--2.0. After rolling the mixture was vulcanized for 10-80 min at 143 ± 1°C. It was found that mixtures of narrow fractions of distillate extract with distillation residue can be used as plasticizer substitute for butadiene-styrene rubber. The effect of plasticizer substitute viscosity on tensile strength of SKS-30 vulcanized rubber (content of the channel gas black is 50 wt %, content of the softener is 20 wt %) is shown in fig. 1 of the Enclosure. The strength of the vulcanized rubber increases with increasing content of heavy aromatics and tar in the plasticizer. Orig. art. has: 1 figure, 2 tables.

ASSOCIATION: LTI im. Lensoveta; MINKh i GP im. I. M. Gubkina

SUBMITTED: 00

ENCL: 01

SUB CODE: MT, FP

NO REF SOV: 007

OTHER: 005

Card 2/3

L 3904-66

ACCESSION NR: AP5023506

ENCLOSURE: 01

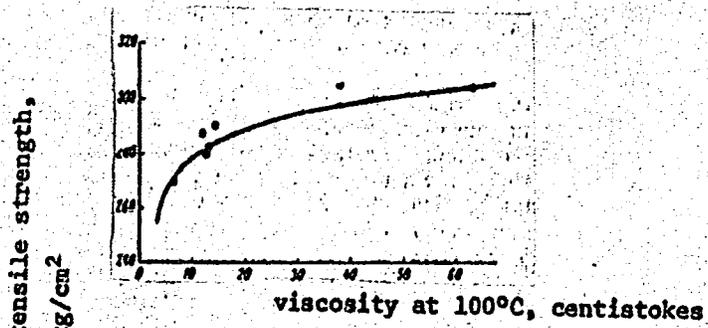


Fig. 1.

*Ch*  
Card 3/3

ZUBENKO, P.M.; KHRISTICH, A.D.; LUKASHEVICH, K.F.; MANZON, S.M.;  
NOVIKOVA, A.A.; SHCHESNO, T.Yu.; ZUBENKO, I.P.

Biochemical changes in the muscles in dogs following the amputation  
and replantation of an extremity. Trudy 1-go MMI 42:135-141 '65.  
(MIRA 19:2)

1. Kafedra biokhimii i khirurgii detskogo vozrasta Dnepropetrovskogo  
meditsinskogo instituta.

1. 111111-11

ACC NO: AR5028909

(A)

SOURCE CODE: UR/0299/66/000/007/M037/M037

AUTHOR: Zubenko, P. M.; Kristich, A. D.; Lukashovich, K. F.; Manzon, S. M.;  
Novikova, A. A.; Sachosno, T. Yu.; Zubenko, I. P.

TITLE: Biochemical changes in muscles of dogs following amputation and replantation  
of an extremity

SOURCE: Ref. zh. Biologiya, Part II, Abs. 9:232

REF SOURCE: Tr. 1-go Mosk. Med. in-ta, v. 42, 1965, 135-141

TOPIC TAGS: dog, tissue transplant, muscle physiology, desoxyribonucleic acid,  
ribonucleic acid, phosphorylation, organic phosphorus compound

ABSTRACT: Extremities of dogs were amputated and kept at room temperature for 1 to 2 hrs or on ice for 2 to 24 hrs. In 1 to 2 hrs nitrogen as well as phosphorus metabolism disorders appeared in the muscles. Phosphocreatine and ATP levels decreased significantly, and inorganic phosphorus and water soluble protein levels increased without affecting fraction ratios during the first hour; in 2 hrs the myogen level decreased. Changes of phosphorus compound levels were similar in extremities kept on ice for 2 hrs; levels of water soluble proteins and their myogenic fraction increased and their phosphorylase fraction decreased. Twenty-four hour cooling led to the same changes. Phosphocreatine and ATP were almost completely broken down. Nucleic acid

Card 1/2

UDC: 577.99

L 09082-67

ACC NR: AR6028909

levels decreased significantly and the level of inorganic phosphorus increased considerably. In 1 1/2 mos. the general levels of inorganic phosphorus, phosphocreatine, ATP, water soluble proteins, myosin and collagen decreased in the replanted extremity muscles. RNA and DNA levels rose. In a year the general levels of nucleic acids, RNA, DNA, water soluble proteins and their fractions were normalized. Phosphorus compounds, particularly phosphocreatine, ATP and inorganic phosphorus, were poorly restored. In 5 to 7 yrs the levels of nucleic acids, water soluble proteins and inorganic phosphorus fractions were completely restored in the extremity muscles; collagen and myosin levels were partially restored. Phosphocreatine, ATP and general phosphorus levels remained considerably reduced compared to norms. Extremities kept at room temperature for 2 hrs failed to accrete. N. S. Translation of abstract.

SUB CODE: 06

Card 2/2

LUKASHEVICH, K. N.

Lukashevich, K. N. - "Pelvic suggestions based on ten years of data (1936-1945) of the Maternity Hospital im. prof. Snegireva," Collection dedicated to the Maternity Hospital im. Snegireva on its 175th anniversary, Leningrad, 1949, p. 154-62

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

SHARAPOV, N.I.; FEDOROV, A.I.A., doktor biologicheskikh nauk, professor,  
otvetstvennyy redaktor; LUKASHEVICH, L.A., redaktor; ARONS, R.A.,  
tekhnicheskiiy redaktor.

[Plant chemistry and climate] Khimizm rastenii i klimat. Moskva,  
Izd-vo Akademii nauk SSSR, 1954. 207 p. (MLRA 7:11)  
(Botanical chemistry) (Crops and climate)

SEITRAUF, Yevgeniy Andreyevich; MOROZ, L.P., nauchnyy red.; LUKASHEVICH,  
L.A., red.; FRUMKIN, P.S., tekhn.red.

[Course on physics for higher technical schools] Kurs fiziki  
dlia vysshikh tekhnicheskikh uchebnykh zavedenii. Leningrad,  
Gos.soiuznoe izd-vo sudostroit.promyshl. Vol.1. [Physical  
fundamentals of mechanics, thermodynamics and the molecular  
physics] Fizicheskii osnovy mekhaniki, termodinamiki i mole-  
kuliarnai fizika. 1960. 484 p. (MIRA 14:1)  
(Physics)

ALEKSEYEV, Grigoriy Porfir'yevich; MAZOVER, Iosif Semenovich; PAYKIN, Ye.V., inzh., retsenzent; POLYAKOV, V.S., dotsent, kand.tekhn. nauk, retsenzent; SERDYUKOV, S.A., nauchnyy red.; LUKASHEVICH, L.A., red.; SHAURAK, Ye.N., red.; TSAL, R.K., tekhn.red.

[Manual for machinery designers and builders; formulas and calculations] Spravochnik konstruktora-mashinostroitelia; formuly i raschety. Leningrad, Gos.soiuznoe izd-vo sudostroit. promyshl., 1961. 447 p. (MIRA 14:6)  
(Machinery--Construction)

LUKASHEVICH, L.M., kand. ekonom. nauk

Work of the laboratory for industrial and economic investigations of the Leningrad Economic Council. Biul. tekhn.-ekon. inform. Gos. nauch.-issl. inst. nauch. i tekhn. inform. 17 no.4: 71-73 Ap '64. (MIRA 17:6)

LUKASHEVICH, L.M.

25(0)

PHASE I BOOK EXPLOITATION

SOV/1884

Leningrad. Inzhenerno-ekonomicheskii institut.

Nekotoryye voprosy ekonomiki mashinostroyeniya (Some Problems on the Economics of Machine-building) [Leningrad] 1957. 176 p. (Series: Its: Trudy, vyp. 18) Errata slip inserted. 2,025 copies printed.

Eds. (Title page): S.A. Volkov, A.B. Yel'yashevich, V.V. Novozhilov, and L.L. Shayovich; Ed. (Inside book): M.U. Slizhis; Tech. Ed.: Ye.A. Pul'kina.

PURPOSE: These articles are intended for engineers and economists of machine-building plants and planning institutes, as well as for students of engineering and economics.

COVERAGE: This volume consists of eight articles on the economics of machine building. L.L. Shayovich discusses indexes as aids in determining specialization and cooperation levels, and in estimating efficiency when planning enterprises for the production of special goods. Ya.L. Mirkin discusses specialization in the production of equipment for specific purposes. He criticizes the state of production of auxiliary equipment in the precision instrument industry, points out the main trends of concentration and specialization, and analyzes methods for planning the

Card 1/4

Some Problems on the Economics (Cont.)

SOV/1884

dimensions of plants specializing in the manufacture of dies. L.M. Lukashevich introduces a classification for general purpose fittings, and discusses trends in standardizing the basic components of fittings and in designating the technological processes which will aid in organizing the production of fittings on the conveyer principle. B.D. Gushchin suggests a classification of automatic conveyer lines, and analyzes methods for selecting suitable and economic conveyer lines. T.N. Fokina, K.I. Yakuta, and E.V. Teterin consider economic aspects in the production of turbine blades, in the electrospark machining of dies, and in the production of castings according to cast models. M.I. Orlova discusses the effect of volume production on shop expenditures. The authors based their studies on Soviet sources, referring only once to an English source. References accompany each article.

TABLE OF CONTENTS:

Shayovich, L.L. [Candidate of Economic Sciences, Docent]. Indexes of Specialization and Cooperation in the Machine-building Industry. 5

Mirkin, Ya.L. [Engineer]. Specialization in the Production of Auxiliary Industrial Equipment in the Precision Instrument Industry and the Industrial and Economic Effect of-Such Specialization

Card 2/4

Some Problems of the Economics (Cont.)

SOV/1884

Lukashevich, L.M. [Engineer and Economist]. Standardization of Designs and Classification of Industrial Processes as Factors in Developing the Conveyer System for the Production of Fittings 45

Gushchin, B.D. [Engineer and Economist]. Some Principles in the Selection of Suitable Automatic Machine Tool Lines

Fokina, T.N. [Candidate of Economic Sciences]. Methods for Integrating Estimates of Preliminary Cost of Turbine Blades 100

Yakuta, K.I. [Engineer and Economist]. Economic Effect of Electrospark Machining of Dies 121

Teterin, E.V. [Economist]. Unit for Measuring Output of Castings in Accordance With Cast Models 140

Card 3/4

Some Problems of the Economics (Cont.)

SOV/1884

Orlova, M.I. [Candidate of Economic Sciences]. Relationship Between Shop Expenditures and Production Volume (using machine-building plants as an example)

149

AVAILABLE: Library of Congress

Card 4/4

TM/gmp  
9-15-59

LUKASHEVICH, L.M., inzh.-ekonomist

Unification of structures and standardization of technological processes are factors for the development of the organization of continuous production in the fittings industry. Trudy LISI no.18:45-74 '57. (MIRA 12:9)  
(Industrial management)

LUKASHEVICH, L.M., inzh.-ekon

Specialization is a factor in the development of continuous  
production in pipe-fitting plants. Trudy LIEI no.22:290-305  
'58. (MIRA 11:12)

1. Leningradskiy inzhenerno-ekonomicheskii institut.  
(Industrial management) (Pipe fittings)

LUKASHEVICH, L.M., kand.ekonomicheskikh nauk

Planning the size and distribution of the pipe-fitting industry in  
the U.S.S.R. Trudy LEBI no.31:71-85 '60. (MIRA 13:10)  
(Pipe fittings)

LIST OF GROUPS      PROCESSES AND PROPERTIES INDEX      REP AND AIN CODES

LUKASHEVICH, L. P. ✓

F

4836. LUBRICATING OIL. Chermogukov, N. L., Lukashovich, L. P., Klapovskaya, A. V. and Bauman, K. (U.S.S.R. P. 69,723/1947; abstr. in Chem. Abstr., 1950, vol. 44, 319).

Oil is treated with an aluminium silicate catalyst at a temperature above 370° but below the cracking temperature. The product is freed of the light fractions by distillation. Oil thus treated has a higher index of viscosity and better stability.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION      FROM BOWLING

GROUPS      REP AND AIN CODES      LETTERS      LIST OF GROUPS

*Lukashevich, L.P.*  
LUKASHEVICH, L.P.

Clinical variants of affections of the abducent nerve. Vrach.  
delo supplement '57:79 (MIRA 11:3)

1. Kiyevskaya oblastnaya bol'nitsa.  
(NERVES, CRANIAL--DISEASES)

ISAKOV, Yu.A.; LUKASHEVICH, L.P.; PANCHENKO, D.I.

Automatic conditioner with wide-range regulation of room microclimate  
(Biotop-2). Vrach. delo no.12:111-117 D '61. (MIRA 15:1)

1. Eksperimental'noye otdeleniye biotrona Kiyevskoy oblastnoy  
bol'nitsy. (CLIMATOLOGY, MEDICAL) (AIR CONDITIONING)

ISAKOVA, G.V.; LUKASHEVICH, L.P.—

Characteristics of the "weather complex" in the biotron. Vrach.  
delo no.9:114-118 S '62. (MIRA 15:8)

1. Kiyevskaya oblastnaya klinicheskaya bol'nitsa.  
(CLIMATOLOGY, MEDICAL) (HYPERTENSION)

LUKASHEVICH, L. P.

Effect of stable meteorological regimes in the biotron on the dynamics of some subjective symptoms in hypertension. Vrach. delo no.3:19-25 Mr '62. (MIRA 15:7)

1. Kafedra nervnykh bolezney (zav. - zasluzhenny deyatel' nauki, prof. D. I. Panchenko) Kiyevskogo instituta usovershenstvovaniya vrachey.

(HYPERTENSION) (CLIMATOLOGY, MEDICAL)

LUKASHEVICH, L.P.

Normalization of arterial pressure under the influence of  
stable meteorological factors. Vrach.delo no.12:27-31 D '62.  
(MIRA 15:12)

1. Kafedra nervnykh bolezney (zav. - zasluzhennyy deyatel'  
nauki, prof. D.I.Panchenko) Kiyevskogo instituta usovershenstvo-  
vaniya vrachey.

(CLIMATOLOGY, MEDICAL) (HYPERTENSION)

LUKASHEVICH, L.P.

Pathogenic influence of drops in meteorological factors and the possibility of their exclusion in the biotron. Vrach.delo no.4  
38-42 Ap'63. (MIRA 16:7)

1. Kafedra nervnykh bolezney (zav.-zasluzhennyi deyatel' nauki  
prof. D.I.Panchenko) Kiyevskogo instituta usovershenstvovaniya  
vrachei.

(CLIMATOLOGY, MEDICAL)

PERTSEV, L.P.; LUKASHEVICH, L.P.

Standardization of flanges of vessels and apparatus. Standartizatsiia  
29 no.3:40-41 Mr '65. (MIRA 18:5)

PERTSEV, L.P.; LUKASHEVICH, L.P., insh.

Self-sealing flanged joints with flat lining. Mashinostroenis  
no.4:53-54 J1-Ag '64. (MIPA 17:10)

GASANOV, A.I., inzh.; LUKASHEVICH, M.O.

Selecting the protection of loop oscillograph vibrators  
operating in circuits with a tenaiometer bridge. Trudy  
MIT no.210:101-104 '65. (MIRA 18:12)

*LUKASHEVICH, N.*  
LUKASHEVICH, N. (Leningrad)

New hose couplings. Pozh.delo 3 no.10:21 0 '57.  
(Hose couplings)

(MIRA 10:11)

TIMOFEYEV, Ya.; LUKASHEVICH, N., inzh.; VERSTIN, G., inzh.; IVASHCHENKO, V.,  
inzh.

Readers' letters. Sel'.stroi. no.8:27 Ag '62. (MIRA 15:11)

1. Glavnyy spetsialist Respublikanskogo gosudarstvennogo instituta  
po proyektirovaniyu sel'skokhozyaystvennogo stroitel'stva (for  
Timofeyev).

(Construction industry)

LUKASHEVICH, N. (Leningrad)

Exhaust fans. Pozh.delo 9 no.8:23 Ag '63. (MIRA 16:9)  
(Fire departments--Equipment and supplies)

LUKASHEVICH, N.A.

On the problem of closed nonperiodic solutions to differential  
equations. Dokl. AN BSSR 4 no.3:91-94 Mr '60. (MIRA 13:6)  
(Differential equations)

LUKASHEVICH, N.A.

General qualitative picture for a system of differential equations  
 $\frac{dx}{dt} = \sum_{i+j=0}^k a_{ij} x^i y^j$ ,  $\frac{dy}{dt} = \sum_{i+j=0}^k b_{ij} x^i y^j$  with a center-type point of equilibrium. Dokl. AN BSSR 4 no.12:497-500 D '60. (MIRA 14:2)

1. Belorusskiy gosudarstvennyy universitet im. V.I. Lenina.  
(Differential equations)

LUKASHEVICH, N.A.

Qualitative over-all picture of a system of differential

$$\frac{dx}{dt} = y + bx^3 + (c - \beta)xy + (3d - \gamma)xy^2 + fy^3;$$

$$\frac{dy}{dt} = -x - ax^3 - (3b + \alpha)xy - (c + \beta)xy^2 - dy^3$$

with an equilibrium point of the center type. Dokl. AN BSSR  
(MIRA 14:2)  
5 no.1:3-5 Ja '61.

1. Belorusskiy gosudarstvennyy universitet im. V.I. Lenina.  
(Differential equations)

LUKASHEVICH, N.A.

Qualitative study of integral curves on the whole of the system

$$\frac{dx}{dt} = y + Ax^3 + Bx^2y + Cxy^2 + Dy^3$$

$$\frac{dy}{dt} = -x^3 - 3Ax^2y + Mxy^2 + Ny^3$$

when (0, 0) is the center. Dokl. AN BSSR 5 no.5:187-190 My '61.  
(MIRA 14:5)

1. Belorusskiy gosudarstvennyy universitet imeni V.I. Lenina. Predstavleno akademikom AN BSSR N.P. Yeruginym.

(Differential equations)

S/044/62/000/008/011/073  
C111/C333

AUTHOR: Lukashevich, N. A.

TITLE: On the question of the limiting cycles of the system  
 $\frac{dx}{dt} = y + P(x,y), \frac{dy}{dt} = -x+Q(x,y), P(tx,ty) = t^3P(x,y),$

$Q(tx, ty) = t^3 Q(x,y)$  in the case where  $(0, 0)$  is a singular point of the vortex type.

PERIODICAL: Referativnyy zhurnal, Matematika, no. 8, 1962, 39,  
abstract 8B178. ("Dokl. AN BSSR, 1961, 5, no. 10,  
424-426)

TEXT: With the help of elementary geometric observations and the criteria by Dulac it is found: If the system given in the title has a singular point of the vortex type, then it cannot have limiting cycles.

[Abstracter's note: Complete translation.]

Card 1/1

LUKASHEVICH, N.A.

Qualitative picture of the behavior of integral curves "in the large" for the system (1) if  $(0,0)$  is the center. Dokl. AN BSSR 6 no.1:3-6 Ja '62. (MIRA 15:2)

1. Belorusskiy gosudarstvennyy universitet imeni V.I.Lenina.  
Predstavlena akademikom AN BSSR N.P.Yeruginym.  
(Differential equations)

LUKASHEVICH, N.A.

Limit cycles for the system  $\frac{dx}{dt} = y + P(x, y), \frac{dy}{dt} = -x + Q(x, y),$   
 $P(tx, ty) \equiv t^3 P(x, y); Q(tx, ty) \equiv t^3 Q(x, y)$  if  $(0, 0)$  is a  
singular point of the "center" type. Dokl. AN BSSR 5 no.10:424-  
426 0 '61. (MIRA 15:3)

1. Belorusskiy gosudarstvennyy universitet imeni V.I.Lenina.  
(Differential equations)

LUKASHEVICH, N.A.

Limiting cycles of a certain system of differential equations.  
Dokl. AN BSSR 7 no.7:443-445 J1 '63. (MIRA 16:10)

1. Belorusskiy gosudarstvennyy universitet imeni V.I.Lenina.  
Predstavleno akademikom AN BSSR N.P.Yeruginym.

LUKASHEVICH, N.A.

Elementary solutions to some Painlevé equations. Diff. urav. 1  
no.6:731-735 Je '65. (MIRA 18:7)

1. Belorusskiy gosudarstvennyy universitet imeni V.I. Lenina.

LUKASHEVICH, N.M., inzh.

Investigating grab buckets for the removal of silage from  
a silo. Trakt. i sel'khoz mash. 33 no.3:31-32 Mr '63.

(MIRA 16:11)

1. Belorusskiy institut mekhanizatsii sel'skogo khozyaystva.

1. VERDEREVSKIY, D.: LUKASHEVICH, P.: LEONT'YEV, N.: TRUBENKOV, A.
2. USSR (600)
4. Cottonseed
7. New sulfuric acid-mechanical method of removing lint from cotton seeds to be sown. Khlopkovodstvo, no. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

LUKASHEVICH. P.A.

25796

Ruchnoy inzhektor dlya fumigatsii pochvy. Trudy Vsesyuz. in-ta zshchity rasteniy,  
vyp. 2, 1949. s. 205-07.

SO: Letopis' No. 34

*LUKASHEVICH, P. A.*

2218 LUKASHEVICH P.A. AND VERDEREVSKIY, D. D.

Bolyezni Vinograda V Moldavii I Myery Bsr'Byz Nimi. Kishinyev. Moldavqiz,  
1954, 135 s. s Ill. 22 sm. 4.000 EKZ. lr. 45k- Na Moldav. Yaz.-  
(54-55643) 634.8:632+632.3/4 : 654.8(47.75)

VERDEREVSKIY, D.; VOLONTIR, I.; GLAZUNOV, K.; KOLESNIK, L.; LUKASHEVICH,  
P. A. MAGER, M.; MALTABAR, L.; ROMANOV, I.; KATS, G., red.;  
BIZYUK, G., red.; MANDELBAUM, M., tekhn.red.

[Manual on viticulture] Kartia vitikulturului. Kishineu, Editura  
de stat a Moldovei, 1957. 398 p. (MIRA 12:10)  
(Viticulture)

LUKASHEVICH, P.A.; ZEYLIKMAN, Kh.N.; GLUSHKO, K.B.; GURBONOV, E., red.;  
GORVACHENKO, F., tekhn. red.

[New machines for fruit culture and viticulture] Novye mashiny  
dlia sadovodstva i vinogradarstva. Kishinev, Izd-vo sel'khoz.  
lit-ry MSKh MSSR, 1962. 145 p. (MIRA 15:6)  
(Moldavia--Fruit culture) (Moldavia--Viticulture)

YEFIMOV, S.P., otv. red.; KABLUCHKO, G.A., red.; PELYAKH, M.A.,  
red.; UNGURYAN, P.N., red.; LUKASHEVICH, P.A., red.;  
TALITSKIY, V.I., red.

[Reports and communications delivered at the Plenum of the  
Section for Fruit Culture, Viticulture, and Subtropical  
Crops of the Moldavian Scientific Research Institute of  
Fruit Culture, Viticulture, and Wine Making] Doklady i so-  
obshchenia na plenumе seksii sadovodstva, vinogradarstva  
i subtropicheskikh kul'tur, 23-29 avgusta. Kishinev.  
No.2. [Viticulture] Vinogradarstvo. 1960. 255 p.  
(MIRA 17:2)

1. Kishinev. Moldavskiy nauchno-issledovatel'skiy institut  
sadovodstva, vinogradarstva i vinodeliya.

S/081/61/000/002/016/023  
A005/A105

Translation from: Referativnyy zhurnal, Khimiya, 1961, No. 2, p. 445, # 2M201

AUTHORS: Chernozhukov, N. I., Lukashevich, P. I., Bikkulov, A. Z., Susanina, O. G., Kazakova, L. P., Sadchikova, M. F., Shchegrova, K. A., Markova, L. M., Kiriya, V. V., Kuz'mina, N. A., Glazov, G.

TITLE: The Solubility of Oil Hydrocarbons in Organic Solvents and Ways of the Oil Production Improvement

PERIODICAL: Tr. Mosk. in-t neftekhim. i gaz. prom-sti, 1959, No. 24, pp. 311-340

TEXT: The authors recommend ways of improvement of the lubricant production. Hydrocarbons of higher molecular weight and higher freezing point are in the first place separated at the fractional crystallization of oil hydrocarbons from their solution in acetone. The solubility of the naphthene and paraffin fractions of oils as well as the solubility of a part of the aromatic hydrocarbons and resins result from the effect of the dispersion forces, and the solubility of the remaining part of aromatic hydrocarbons and resins is connected with the action of polar forces. The increase of the dissolving power of the solvent is a consequence of the increase of both its dipole moment and the non-polar portion

Card 1/3

S/081/61/000/002/016/023  
A005/A105

The Solubility of Oil Hydrocarbons in Organic Solvents and Ways of the Oil  
Production Improvement

of its molecule. In both cases, the increase of the dissolving power of the solvent is accompanied with the decrease of its selectivity. There are considered: the mechanism of the de-asphaltizing of a petroleum concentrate by propane; the effects of temperature and quantity of furfurole on the course of refining of the oil distillate of the Tuymazy petroleum; the properties of phenol and furfurole. An increase in the quantity of furfurole in the refining makes up the insufficiency in its dispersion properties; hereat, the quantity of aromatic hydrocarbons being to be eliminated sharply increases, as a result of which the viscosity coefficient of the refined product increases more than at increased refining temperature. By the use of phenol, the output of refined products is lower than for the refining by furfurole in consequence of the higher dissolving power of the former. The high dissolving power of phenol leads to super-refining of oils in consequence of which their resistance to oxidation decreases. By the addition of water to phenol, its dissolving power decreases, and the selection properties and the output of refined products increase, whereat its viscosity coefficient inconsiderably decreases. The treatment of a transformer oil distil-

Card 2/3

S/081/61/000/002/016/023  
A005/A105

The Solubility of Oil Hydrocarbons in Organic Solvents and Ways of the Oil  
Production Improvement

late from sulfurous paraffin-base petroleum by phenol containing 10% water makes it possible to obtain an oil resistant to oxidation and having high susceptibility to antioxidant admixtures. The two-stage deparaffination of wide oil fractions makes it possible to increase the output of oils. An increase of the output of deparaffinized oils and the filtration rate is also attained by the addition of admixtures, in particular, of the depressant АЗНИИ (AzNII) and oxidized petrolatum. ✓

B. E.

Translator's note: This is the full translation of the original Russian abstract.

Card 3/3

LUKASHEVICH, P. Z.

Conveying Machinery

Loading rock on railroad cars with a rotary shovel., Gor. zhur., No. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, April 1952. UNCLASSIFIED.

LUKASEWICH, S.I.

Studies on the effect of the dysentery bacteriophage in association with ekmolin. Zhur.mikrobiol.epid.i immun. no.8:26-31 Ag '54.  
(MLRA 7:9)

1. Iz kafedry epidemiologii (zav.prof. V.D.Solov'yev) II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni I.V.Stalina.

(SHIGELLA,

\*dysenteriae, eff. of bacteriophage with antibiotic ekmolin)

(ANTIBIOTICS, effects,

\*ekmolin, on Shigella dysenteriae, with bacteriophage)

(BACTERIOPHAGE, effects,

\*on Shigella dysenteriae, with antibiotic ekmolin)

LUKASHEVICH, S.I.

Developing a culturing the trachoma virus. Vop.virus. 1 no.3:40-42  
My-Je '56. (MIRA 10:1)

1. Laboratoriya po izucheniyu virusa trakhomy Gosudarstvennogo  
nauchno-issledovatel'skogo instituta glaznykh bolezney imeni  
Gel'mgol'tsa, Moskva.

(TRACHOMA, virus,  
culture in ascites tumor (Rus))

(VIRUSES,  
trachoma virus, culture in ascites tumor (Rus))

(NEOPLASMS, experimental,  
ascites tumor as culture medium for trachoma virus (Rus))

USSR / Virology. Viruses of Man and Animals. Chlamydozoa.

E-2

Abs Jour : Ref Zhur - Biologiya, No 22, 1958, No. 99183

Author : Lukashevich, S. I.

Inst : State Scientific Research Institute for Eye Diseases

Title : On the Cultivation of the Trachoma Virus. Report 1

Orig Pub : Uch. zap. i inform. myetod matyerialy. Gos. n.-i  
in-t glazn. boleznyey, 1957, No 5, 7-11

Abstract : No abstract given

Card 1/1

18

LUKASHEVICH, Sergey Ivanovich; KALUGINA, A.A., red.; VOROBAY, P.S.,  
red.; ZUYKOVA, V.I., tekhn. red.

[Problems of the economics of interfarm building organizations]  
Voprosy ekonomiki mezhkolkhoznykh stroitel'nykh organizatsii.  
Minsk, Izd-vo Akad. sel'khoz.nauk BSSR, 1961. 149 p.  
(MIRA 15:7)

(Collective farms—Interfarm cooperation)  
(Construction industry)

LUKASHEVICH, Sergey Ivanovich; LEVIN, Iosif Ben'yaminovich;  
SHAVEL'SKIY, A.Ye., nauchnyy red.; ZIMA, Ye.G., tekhn. red.

[The main economic problem of the Soviet people and how to solve it] Glavnaya ekonomicheskaya zadacha sovetskogo naroda i puti ee reshenia. Minsk, 1962. 36 p. (Obshchestvo po rasprostraneniю politicheskikh i nauchnykh znaniy Belorusskoi SSR, no.1) (MIRA 15:3)

(Russia--Economic policy)

17(4)

AUTHOR:

Lukashevich, T. P.

SOV/20-124-6-49/55

TITLE:

The Development of a Morphological Substratum of the Peripheral Region of the Tactile-kinaesthetic Analyzer of Man  
(Razvitiye morfologicheskogo substrata perifericheskogo otdela taktil'no-kinesteticheskogo analizatora cheloveka)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 6, pp 1357-1360  
(USSR)

ABSTRACT:

The function of the analyzer mentioned in the title forms and develops in various stages of life of the child (Refs 1, 2). It was interesting to study its morphological dynamics in the first years of life during which children demonstrate a great motor activity. In previous papers (Refs 3-6) corresponding data are missing. This paper intends to follow up the development of the proprio- and tactile receptors in various muscles of the hand. The degree of development of the sensible endings should be compared with some qualities of the function of the analyzer mentioned in the title in the case of embryos, new-borns and 2-4 year-old children. The receptors have not yet attained their full development in the case of 6-month-old embryos. At the time of birth the receptors

Card 1/3

The Development of a Morphological Substratum  
of the Peripheral Region of the Tactile-kinaesthetic Analyzer of Man

SOV/20-124-6-49/55

exhibit a more advanced degree of development (Fig 1). The Pacinian corpuscles approach their definite shape. On some preparations of 7.5-month-old embryos but more often on new-born children Meissner's corpuscles not observed until now appear which, however, are but in their initial stages of development. The nerve fibers form little glomerules or loops after having reached the tip of the connective-tissue uvula of the skin (Fig 2). Thus the receptor apparatus of the hand muscles and palm skin investigated is already developed at the time of birth, although not all nerve endings are fully differentiated morphologically. In the case of a 3-4 year-old child the sensible endings in the muscles and skin of the hand are highly developed. At this time Meissner's corpuscles reach their full development and are not to be distinguished from those of adults (Fig 4). Experiments carried out on 2- and 4-year-old children have shown that the former are inferior with respect to precision of reproduction of passive movements to 4-year-old children. This also concerns the rate of production of conditioned connections and the fineness of differentiation of shape and size of objects. Hence it follows

Card 2/3

The Development of a Morphological Substratum SOV/20-124-6-49/55  
of the Peripheral Region of the Tactile-kinaesthetic Analyzer of Man

that there is a close connection between the functional and structural development. The more advanced the morphological maturity of the receptor apparatus is the more it differentiates and the more clearly it receives these or those external stimuli transforming them into nerve impulses. The latter are passed on to the now sufficiently developed cortical parts of the analyzer mentioned in the title (Ref 7). There are 4 figures and 7 Soviet references.

ASSOCIATION: Institut evolyutsionnoy fiziologii im. I. M. Sechenova  
Akademii nauk SSSR (Institute of Evolutionary Physiology imeni  
I. M. Sechenov of the Academy of Sciences, USSR)

PRESENTED: September 29, 1958, by L. A. Orbeli, Academician

SUBMITTED: September 24, 1958

Card 3/3

LUKASHEVICH, T. P.

"The Change in Succinic Dehydrogenase in the Mitochondria of the Rods and Cones of the Retina of Mammals Found in a State of Dark Adaptation and Under the Action of Light."

report submitted for the First Conference on the problems of Cyto and Histochemistry, Moscow, 19-21 Dec 1960.

Laboratory of Evolutionary Morphology of the Institute of Evolutionary Physiology  
Imeni I. M. Sechenov, Academy of Sciences USSR, Leningrad.

LUKASHEVICH, T.P.

Development of the tactile-kinesthetic analysor in children at the  
age of 2-4 years. *Mat. po evol. fiziol.* 4:23-29 '60.

(MOVEMENT, PSYCHOLOGY OF) (CHILD STUDY) (MIRA 13:10)

LUKASHEVICH, T.P.

Variation in the activity of enzymes of the succinic oxidase system in photoreceptors of vertebrates under different conditions of illumination. Dokl.AN SSSR 145 no.3:669-672 J1 '62.

(MIRA 15:7)

1. Institut evolyutsionnoy fiziologii imeni I.M.Sechenova AN SSSR. Predstavleno akademikom V.N.Chernigovskim.  
(SUCCINIC OXIDASE) (RETINA)

LUKASHEVICH, T.P.

Localization and activity of dehydrases in the mitochondria of ellipsoids of the photoreceptors in vertebrates. Dokl. AN SSSR 156 no.6:1436-1439 Je '64. (MIRA 17:8)

1. Institut evolyutsionnoy fiziologii imeni Sechenova AN SSSR. Predstavleno akademikom A.I. Oparinym.

VINNIKOV, Ya.I.; LUKASHEVICH, T.P.

Activity of enzymes of the succinic oxidase system in the mitochondria of the epithelium cells of the anterior wall of the crystalline lens in reparative regeneration. Izv. AN SSSR. Ser. biol. no.6:916-919 N-D '64.

(MIRA 17:11)

1. I.M. Sechenov Institute of Evolutionary Physiology, Academy of Sciences of the U.S.S.R., Leningrad.

107-57-1-38/60

AUTHOR: Lukashevich, V. (Moscow)

TITLE: Mounting of Parts. Experience Exchange (Krepleniye detaley. Obmen opytom)

PERIODICAL: Radio, 1957, Nr 1, p 36 (USSR)

ABSTRACT: In constructing miniature equipment, many parts can be cemented directly on the chassis. BF-2 cement (or glue) is recommended for this purpose.

AVAILABLE: Library of Congress

Card 1/1

LUKASHEVICH, V.A., ekonomist

"Asbestos cement industry abroad" by V.G.Fel'zenbaum. Stroi.mat.  
7 no.6:40,3 of cover Je '61. (MIRA 14:7)  
(Asbestos cement)  
(Fel'zenbaum, V.G.)

CHUDNOVSKIY, D.M., kand.ekonom.nauk; LUKASHEVICH, V.A.

Give priority to advanced and economical materials. Stroim.at.  
10 no.4:13-16 Ap '64. (MIRA 17:5)

1. Rukovoditel' otдела Nauchno-issledovatel'skogo instituta ekonomiki stroitel'stva Gosstroya SSSR (for Chudnovskiy). 2. Glavnyy inzhener otдела Nauchno-issledovatel'skogo instituta ekonomiki stroitel'stva Gosstroya SSSR (for Lukashevich).

AGEYEV, V.M., kand. ekon. nauk; REKITAR, Ya.A.; USTIMENKO, V.V., ekonomist; MEL'NIKOV, A.A., kand. ekon. nauk; DUFASHEVICH, V.A., ekonomist; FEL'ZENBAUM, V.G., kand. ekon. nauk; SERGEYEVA, K.A., inzh.; CHUDNOVSKIY, D.M., nauchn. red.

[Method of calculating the economic efficiency of technological progress in the building materials and structural elements industry; using the example of several branches and types of production] Metody rascheta ekonomicheskoi effektivnosti tekhnicheskogo progressa v promyshlennosti stroitel'nykh materialov i konstruktsii (na primere nekotorykh otraslei i vidov proizvodstv). Moskva, Stroiizdat, 1965. 157 p. (MIRA 18:4)

1. Moscow. Nauchno-issledovatel'skiy institut ekonomiki stroitel'stva.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

TEST AND ANALYSES PROCESSES AND PROPERTIES

*Handwritten:* 100

A method for the determination of anhydrides of organic acids in the presence of acids. V. O. LUGASHEVICH. *J. Chem. Ind. (Moscow)* 8, 1086-7(1931).—One part of the mixt. is boiled with  $H_2O$ , then titrated. Another part is boiled 30 min with MeOH. This esterifies the anhydride, but does not affect the acids. The difference in titration values of the 2 samples gives the amt. of anhydride. H. M. LICKSNER

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

PROCESS AND PREPARATION NOTES

2

*ca*

Sodium amalgams contaminated with iron. V. Lukashovich. *Compt. rend. acad. sci. U. R. S. S. 4, 430-42* (in German, 442-3)(1934).—The results confirm those of Willstätter, Seitz and Burm (C. A. 22, 2568) that increasing amts. of Fe reduce the rate of reaction with water and the reducing action. R. E. DeRight

ASNT-51-A METALLURGICAL LITERATURE CLASSIFICATION

GROUP	SECTION	TYPE	DATE	CLASSIFICATION
1	2	3	4	5
6	7	8	9	10
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41	42	43	44	45
46	47	48	49	50
51	52	53	54	55
56	57	58	59	60
61	62	63	64	65
66	67	68	69	70
71	72	73	74	75
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86	87	88	89	90
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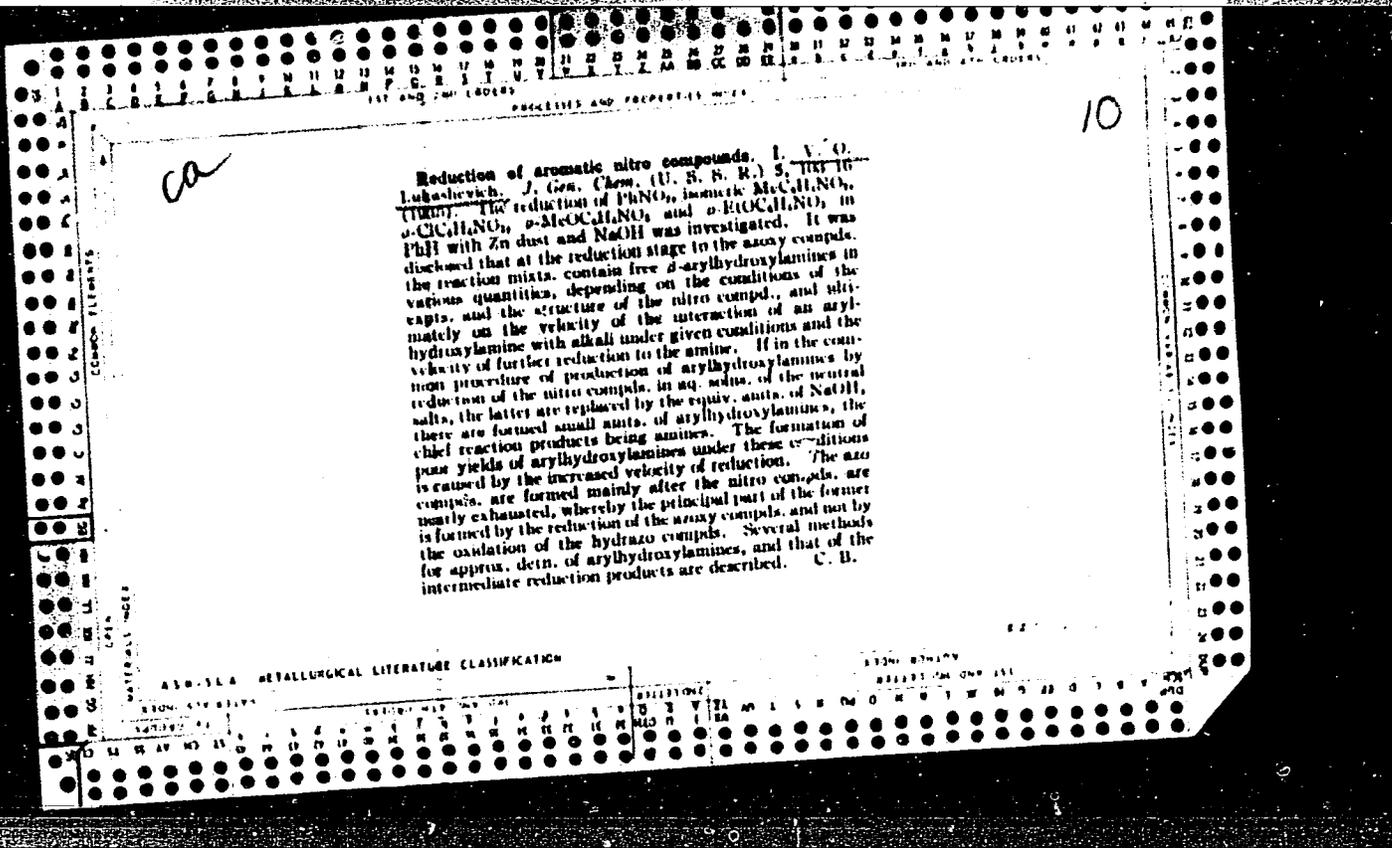
PROCESSES AND PROPERTIES INDEX

10

CA

Production of o nitrophenol from o nitrochlorobenzene  
 V.O. Lukashevich and A.M. Itenberg. Anilinokrasochhnaya Prom.  
 5, 28-9(1935). A yield of 96% o-HOC<sub>6</sub>H<sub>4</sub>NO<sub>2</sub> (I), m. 42-3° was  
 obtained by digesting 315 parts of pure o-ClC<sub>6</sub>H<sub>4</sub>NO<sub>2</sub> with 5600  
 parts by wt. of 5% NaOH in an Fe autoclave at 160° for 9 hrs.  
 p-ClC<sub>6</sub>H<sub>4</sub>NO<sub>2</sub>, treated similarly for 12 hrs., produced good  
 yields of p-HOC<sub>6</sub>H<sub>4</sub>NO<sub>2</sub> (II). By working with NaOH of higher  
 concn., the brevity of the reactions and the yields are re-  
 duced. By introducing metallic Cu or by working in Cu auto-  
 claves, the yields of I and II are decreased chiefly by the  
 decompn. of the nitrophenols. Chas. Blanc

METALLURGICAL LITERATURE CLASSIFICATION





LUKASHEVICH, V. O.; VOROSHILOVA, M. A.

"Reduction of Nitro Compounds by Cast Iron Chips," Doklady Akad Nauk USSR 7:  
394-397, No 5-6, 1935. (T-2342).

Evaluation B-83873, 28 Mar 55

PROCESSES AND PROPERTIES INDEX

**CA**

**Reduction of aromatic nitro compounds. II. V. O. Lukashovich. J. Gen. Chem. (U. S. S. R.) 6, 1064 73 1936; Cf. C. A. 29, 4745**—It has been disclosed that in the reduction of aromatic amines with Zn dust and NaOH in H<sub>2</sub>O besides the usual stepwise formation of azoxy and hydrazo compds., a simultaneous or parallel reduction of nitro and azoxy compds., with large yields of amines, may also take place. The mechanism of the reaction was studied by sep. reduction of hydrazo, azoxy and azo compds. and mixts. of azoxy and nitro compds. of like and unlike aryl radicals. The exptl. evidence is in disagreement with the common interpretation of the mechanism of amine formation by alk. reduction of azoxy compds. with Zn. It was found that hydrazo compds. do not form amines in the usual methods of reduction with Zn and NaOH. In the reduction of azoxy compds. the amino compds. result directly without the intermediate formation or decompn. of hydrazo compds. Thus, the reduction of *o*-azoxytoluene with gradual addn. of *o*-hydrazonitrosol resulted in *o*-MeC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub> and no anisidine. Azoxy compds. heated even with highly concd. NaOH gave no amines. Undoubtedly, in the reduction of azo compds., the amines are formed also directly and not from the hydrazo compds.:  $RN:NR + 4H \rightarrow 2RNH_2$ . The parallel reduction of azoxy and nitro compds. was effected by successive addns. to *o*-azoxytoluene in C<sub>6</sub>H<sub>6</sub> at 67-72° of 2-4 g. Zn dust (activated by heating with 1-2 drops of 20% NaOH) within 20 min., 15-20% *o*-MeC<sub>6</sub>H<sub>4</sub>NO<sub>2</sub> (based on the wt. of the azoxy compd.) and Zn and NaOH, giving nearly theoretical yields of hydrazotoluene and toluidine. Reduction of *o*-azoxyanisole with the addn. of *o*-MeC<sub>6</sub>H<sub>4</sub>NO<sub>2</sub> and that of azoxytoluene with the addn. of nitroanisole resulted in hydrazo compds. in amts. equiv. to the azoxy compds., and amines nearly equiv. to the nitro compds. used. In the following expt. it is demonstrated that the course of the reaction is not changed on addn. of even very large amts. of a nitro compd. to an azoxy compd. after the reduction has begun. After the reduction of *o*-azoxyanisole had set in, *o*-MeC<sub>6</sub>H<sub>4</sub>NO<sub>2</sub> was added in 1 portion in the amt. of 54 mols. to 44 mols. of azoxy compd., giving 54% toluidine and 36.4% hydrazoanisole. The same reaction in alc. gave poor yields of amines. Reduction of azo compds. with the addn. of nitro compds. proceeded similarly. Since under these conditions the reduction process proceeds very rapidly, the nitroso compds. and  $\beta$ -arylhydroxylamines, derived from the nitro compds. are also reduced at unusually great velocities with formation of large quantities of amines. About 25 references.

Chas. Blanc

12

METALLURGICAL LITERATURE CLASSIFICATION



10

1ST AND 2ND ORDERS      PROCESSES AND PROPERTIES INDEX

**The reduction of nitro compounds by cast-iron turnings.**  
 IV. V. O. Lukashovich and M. A. Voroshilova. *Org. Chem. Ind. (U. S. S. R.)* 4, 253-7(1937); cf. C. A. 29, 6820; C. A. 32, 516. — The relative velocities of the reduction of several nitro compds. by Fe turnings in HCl and NH<sub>4</sub>Cl solns. were studied by the previous method. *o*-C<sub>6</sub>H<sub>4</sub>NO<sub>2</sub> (I) is reduced very slowly independently of the HCl concn. (88.6% *o*-C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub> (II) with 10.1% I in 905 min.). The reaction is greatly accelerated by adding some NH<sub>4</sub>Cl to the mixt. (98.8% II with 1.1% I in 122 min.). Yields of 95.8% II in 120 min. and 99.6% I in 157 min. have resulted by introducing 51 g. of fused I into the boiling mixt. of 3.75 g. NH<sub>4</sub>Cl in 90 cc. H<sub>2</sub>O and 60 g. Fe and boiling, with stirring, for 2.5 hrs. From the greater rate of reduction of com. I and that of pure I on the addn. of a little HNO<sub>3</sub>, it is postulated that in the com. production the reduction is catalyzed by the NH<sub>4</sub>Cl formed in the reaction by the decomn. of the contaminating HNO<sub>3</sub>. The reduction of *o*- and *p*-nitroanisoles in HCl gave max. 90% anisidines and considerable resinification products and nearly 100% in NH<sub>4</sub>Cl soln. The reduction of *p*-MeC<sub>6</sub>H<sub>4</sub>NO<sub>2</sub> proceeds very slowly, giving at the concns. of 0.0151-0.398 N FeCl<sub>2</sub> about equal yields of toluidine (61.5-7.0%) and at 1.5 N FeCl<sub>2</sub> 36% toluidine.

In a NH<sub>4</sub>Cl soln. the rate of reduction increases with the electrolyte concn. with a max. 83.9% toluidine. *p*-Nitrophenol is reduced in HCl and NH<sub>4</sub>Cl equally slow, though in NH<sub>4</sub>Cl soln. 95.2% *p*-phenetidine and no resinification products are obtained. In the case of these 2 nitro compds. the chem. nature of Fe turnings has no effect on the reaction. The water-sol. *p*-O<sub>2</sub>N<sub>2</sub>C<sub>6</sub>H<sub>4</sub>OH is more rapidly reduced than the insol. *o*-isomer. The reaction proceeds more rapidly in dil. solns. and by gradual addn. of the nitro compds. to the reaction mixt., giving a max. 88% aminophenols. A yield of 98.1% *m*-C<sub>6</sub>H<sub>4</sub>(NH<sub>2</sub>) (III) and no O<sub>2</sub>N<sub>2</sub>C<sub>6</sub>H<sub>4</sub>NH<sub>2</sub> (IV) is obtained from C<sub>6</sub>H<sub>5</sub>(NO<sub>2</sub>) (V) at the optimum concn. of 1.044 g. HCl in 60 cc. H<sub>2</sub>O at 60-5° and at boiling temp. At lower HCl concns. the yield of III decreases and that of IV increases. A method of analysis of III, IV and V in a mixt. for the control of the reduction process is based on the ability of III and inability of IV to couple with Ph<sub>2</sub>N<sub>2</sub>Cl in AcOH. Filter the reduction mixt., wash the sludge with hot H<sub>2</sub>O and CaH<sub>2</sub>, shake the filtrate with excess HCl, evap. the CaH<sub>2</sub> layer to dryness and weigh and det. the residue as V. Dil. the aq. layer to 2 l., withdraw 50 cc., add 70 cc. of concd. NaOAc and titrate with Ph<sub>2</sub>N<sub>2</sub>Cl with H acld as indicator. Det. the total amines by treating 200 cc. of the soln. with 35 cc. of concd. HCl and 3-4 g. KBr and titrate rapidly (3-4 min.) with NaNO<sub>2</sub> at 0°. Det. IV by difference.      Chas. Blanc.

62

A 13-51A      METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX

16

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The reduction of aromatic nitro compounds. III.  
 Reduction of nitro compounds and the nature of the products in the presence of acid. V. O. Lukashovich, *J. Gen. Chem. (U. S. S. R.)* 7, 2209 28(1937); cf. C. A. 31, 10129. -The formation of  $\beta$ -arylhydroxylamines in the reduction of nitro compds. depends on the rate of reduction. In AcOH, Zn and Pb reduce NO<sub>2</sub> groups slowly and large yields of the hydroxylamines can be obtained. When PhNO<sub>2</sub> is reduced in concd. HCl by Sn or Hg, about 70% of ClC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub> is obtained. Reduction with Zn and SnCl<sub>2</sub> gives about 8-10% of the Cl deriv. Higher temps favor its formation. Reduction with Cu and Fe gives almost entirely PhNH<sub>2</sub>, since the Cu<sub>2</sub>Cl<sub>2</sub> and FeCl<sub>2</sub> which are formed reduce hydroxylamines so fast that chlorination cannot take place. Equiv. mixts. of FeCl<sub>2</sub> + FeCl<sub>3</sub> and Cu<sub>2</sub>Cl<sub>2</sub> + CuCl<sub>2</sub> oxidize PhNH<sub>2</sub>OH when they react with it alone, but if acid is added to the mixt., they become reducing agents and the amt. of reduction increases with the acid concn. Fe and Cu have the same action on hydrazo compds. Fe, Cu and Hg in acid soln. reduce azoxy and azo compds. faster than nitro compds. When azobenzene is reduced, the % formation of benzidine and azobenzene is reduced, the % formation of benzidine and PhNH<sub>2</sub> depends on the acid and metal which are used. Cu gives the most PhNH<sub>2</sub>, Hg the most benzidine. HCl gives more PhNH<sub>2</sub> than H<sub>2</sub>SO<sub>4</sub>. During reduction of azoxy compds. the intermediate formation of hydrazo and hydrazo compds. need not always occur, since reduction of azoxy and hydrazo compds. under the same conditions does not always give the same results. H. M. Leicester

H. M. Leicester

ASS-214 METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



W

The preparation of mixed azoxy compounds by the action of nitroso compounds on  $\beta$ -arylhydroxylamines. V. O. Lukashevich. *Compt. rend. acad. sci. U. R. S. S. S.* 21; 370-9(1938) (in English); cf. C. A. 33, 1683t. Contrary to Bamberger and Renauld (*Ber.* 30, 2378 (1897)), nitroso compds. and  $\beta$ -arylhydroxylamines also form large amts. of mixed azoxy nitro or nitroso compds. sym. ones. Interaction of arylamines gave the following: with carboxy- $\beta$ -phenylhydroxylamines, m. 184-5°, azo reduction product (azobenzene-3-carboxylic acid) m. 171-2°, along with *m*-azoxybenzenedicarboxylic acid (II), m. 310-20°; 2'-methylazoxybenzene-3-carboxylic acid (II), in the form of 2 isomers, m. 170-0.5° (NH<sub>4</sub> salt) and m. 142-3°, azo reduction product m. 162-3°, along with I, and *o*-azoxytoluene; 3'-methylazoxybenzene-3-carboxylic acid, m. 189-9°, corresponding azo compd. m. 166.5-7.5°, along with II and *m*-azoxytoluene; 4'-methylazoxybenzene-3-carboxylic acid, m. 209-10°, azo reduction product m. 209.5-10°, along with II and *o*-azoxytoluene; 4'-chloroazoxybenzene-3-carboxylic acid, m. 254-0°, azo reduction product m. 244.5-5.5°; azoxybenzene-2-carboxylic acid, m. 127-8°, azo reduction product m. 92.5-3.5°, along with azoxybenzene and *o*-azoxybenzenedicarboxylic acid (III); 2'-methylazoxybenzene-2-carboxylic acid, m. 150-2°, azo reduction

product m. 138.5-0.5°, along with III and *o*-azoxytoluene; azoxybenzene-4-carboxylic acid,  $\beta$ -form. 4-Chloroazoxybenzene, m. 61-2°, was formed along with *p*-dichloroazoxybenzene by the action of PhNO on *p*-ClC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>OH. 4-Bromoazoxybenzene, consisting of 2 isomers, m. 92-3°, 71-2°, was formed along with *p*-dibromoazoxybenzene by the action of PhNO on *p*-BrC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>OH. G. A.

AS 514 METALLURGICAL LITERATURE CLASSIFICATION





1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX										100 AND 4TH ORDERS									
COMMON ELEMENTS																													
CA																				10									
Preparation of benzidine bases. V. O. Lukashevich. <i>Org. Chem. Ind. (U. S. S. R.)</i> 7, 505-52 (1948). Reduction of nitro compds. to hydrazo compds. and their rearrangement under the influence of acids to form benzidine bases are critically analyzed with a view toward improving the technology and the yield of azoxy compds. 10 references. B. Z. Kamich																													
COMMON ELEMENTS																													
MATERIALS INDEX																													
ASB-11A METALLURGICAL LITERATURE CLASSIFICATION																													
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GROUPS										ELEMENTS										COMPOUNDS									

1ST AND 2ND ORDERS      3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

10

*10*

Action of sodium on aromatic nitro, nitroso, and azo compounds. V. O. Lukashevich (Nauch.-Isledovatel. Inst. Organicheskikh. Poluproduktov i Krasitelei im. K. E. Voroshilova). *J. Gen. Chem. (U.S.S.R.)* 11, 1007-18(1941); cf. *C.A.* 30, 3796<sup>1</sup>.—L. studied the action of Na-Hg on azo compds. in Et<sub>2</sub>O. It was shown that the products are either di-Na hydrazo compds. or double compds. of these with azo compds. It was also shown that Na and nitro compds. form either RNO<sub>2</sub>Na or RNO<sub>2</sub>Na<sub>2</sub>, RNO<sub>2</sub>, while nitroso compds. form only RNONa<sub>2</sub>-RNO which, however, in the presence of azo or nitro compds., disoc. more or less completely. Reduction of nitro compds. by Na-Hg in the presence of concd. NaOH proceeds through the corresponding Na derivs. When 0.5% Na-Hg reacts in dry Et<sub>2</sub>O with nitro compds. the RNO<sub>2</sub>Na<sub>2</sub>.KNO<sub>2</sub> formed amounts to 88-95% as an Et<sub>2</sub>O-insol. ppt. (for PhNO<sub>2</sub> and *o*-, *m*-, and *p*-NO<sub>2</sub>C<sub>6</sub>H<sub>4</sub>Me) PhNO and *o*-, *m*-, and *p*-MeC<sub>6</sub>H<sub>4</sub>NO and *o*-ONC<sub>6</sub>H<sub>4</sub>Me yield 94-5% RNONa<sub>2</sub>.RNO, while PhN:NPh, (*o*-MeC<sub>6</sub>H<sub>4</sub>N<sub>2</sub>)<sub>2</sub> and (*m*-MeC<sub>6</sub>H<sub>4</sub>N<sub>2</sub>)<sub>2</sub> give 83-92% RNNa<sub>2</sub>NR. Treatment of the compds. of the latter group with H<sub>2</sub>O instantly leads to almost quant. yields of the corresponding hydrazo compds., while the treatment with BzCl at 0° leads to good yields of dibenzoylhydrazo compds.: dibenzoylhydrazobenzene, m. 161-2° (from EtOH), dibenzoyl-*m*-hydrazotoluene, m. 130-1° (from EtOH), and dibenzoyl-*p*-hydrazotoluene, m. 137-8° (from EtOH); when the benzoylation is conducted at reflux temp. the

main products are the corresponding dibenzanilides. Azo compds. react competitively or add to the Na derivs. of azo compds. according to the following reactivity order (descending): (*o*-ClC<sub>6</sub>H<sub>4</sub>N<sub>2</sub>)<sub>2</sub>, (*o*-MeOC<sub>6</sub>H<sub>4</sub>N<sub>2</sub>)<sub>2</sub>, (*o*-EtOC<sub>6</sub>H<sub>4</sub>N<sub>2</sub>)<sub>2</sub>, PhN<sub>2</sub>, (*m*-MeC<sub>6</sub>H<sub>4</sub>N<sub>2</sub>)<sub>2</sub>, (*p*-MeC<sub>6</sub>H<sub>4</sub>N<sub>2</sub>)<sub>2</sub>, and (*o*-MeC<sub>6</sub>H<sub>4</sub>N<sub>2</sub>)<sub>2</sub>. Mixing nitro compds. with Na derivs. of azo compds. results in the loss of Na by the latter; nitroso compds., however, lose Na only partially when their Na derivs. are mixed with azo compds.

G. M. Kosolapoff

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS      3RD AND 4TH ORDERS

COMMON ELEMENTS      COMMON VARIABLE SITES

OPEN      MATERIALS INDEX